



Install Windows 7* on USB 3.0 Computers

User Guide

August 2018



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Revision History

Date	Revision	Description
June 2018	1.0	Initial release.



1.0 *Introduction*

Windows 7 installation media doesn't include native driver support for USB 3.0. When installing Windows 7, on the screen to select your preferred language, a keyboard or mouse connected to a USB 3.0 port doesn't respond. Any Intel® NUC that has only USB 3.0 ports is affected.

This document describes two methods to resolve the problem:

- [DISM Graphical User Interface \(GUI\) Tool](#)
- [DISM Command Line Tool](#)



2.0 *DISM Graphical User Interface (GUI) Tool*

The DISM Graphical User Interface (GUI) Tool updates a Windows 7 installation image so that it contains USB 3.0 drivers.

2.1 Assumptions

- You have a valid copy of Windows 7 on ISO or DVD.
- You have Administrator access to another working computer (the Admin system) with Windows 7 or later to follow these steps.
- The Admin system has .NET Framework 4.0 installed.
- The Admin system has at least 10GB free disk space.
- You've downloaded and installed the DISM GUI from <https://dismgui.codeplex.com/>.

2.2 Create the USB Flash Drive Installer

1. Use your Windows 7 DVD or ISO image to create a bootable USB flash drive. Instructions on how to do are found on [Microsoft's site](#).
2. Leave the flash drive connected to your administrator console system.

2.3 Copy install.wim and boot.wim to the Admin System

1. Create a temporary working directory on the Admin system, such as **C:\WIM**.
2. Create a mount point under your working directory: **C:\WIM\MOUNT**.
3. Locate the boot.wim and install.wim image files in the \sources directory on your Windows 7 flash drive.
4. Copy both these files to your working directory. **We recommend you make a second unmodified copy of these files.**

2.4 Get the Latest USB 3.0 Drivers

1. Download the current USB 3.0 drivers for your Intel NUC from [Download Center](#) to the Admin system.
2. Extract but don't install the USB 3.0 driver package.
3. Create a driver folder in your working directory for the 64-bit drivers (**C:\WIM\USB3**).
4. Copy the x64 folder from the extracted files to that location (**C:\WIM\USB3\x64**).

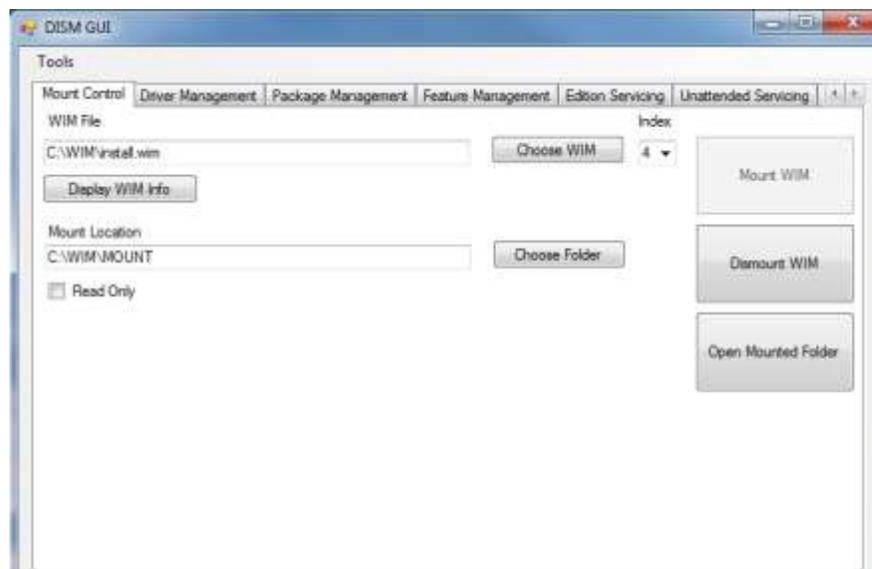


2.5 Run the DISM GUI Tool

Right-click on DISM GUI.exe and select **Run as Administrator**. Follow these steps:

1. Mount install.wim Image

- a) On the Mount Control tab, click the **Choose WIM** button.
- b) Navigate to where you copied install.wim (C:\WIM, for example) and click **Open**.
- c) Choose the index number for the version of Windows 7 you have from the drop-down list under **Index**.
 - 1 = Home Basic
 - 2 = Home Premium
 - 3 = Professional
 - 4 = Ultimate
- d) Click the **Choose Folder** button for the Mount Location. Browse to the proper folder (C:\WIM\MOUNT, for example) and click **OK**.
- e) Verify the **Read Only** checkbox is clear and click the **Mount WIM** button.

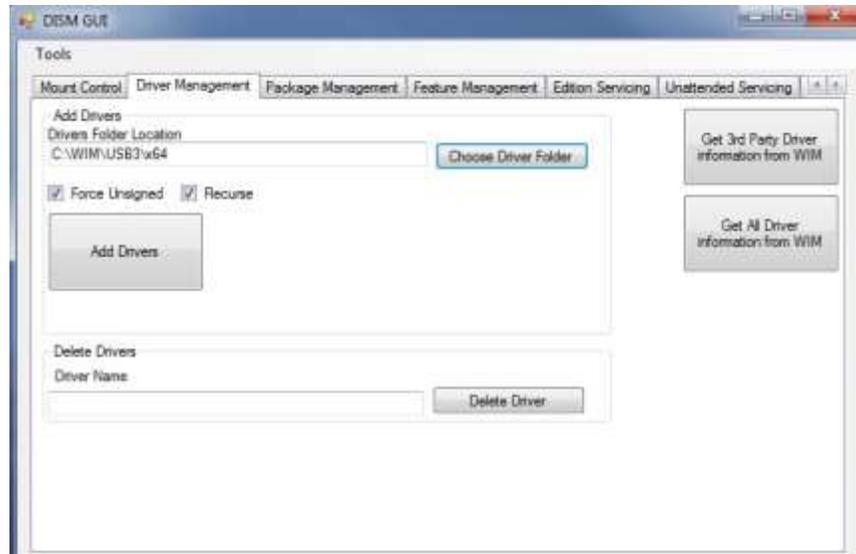


The mounting process may take a few minutes, depending upon the speed of the Admin system and the size of the install.wim file.



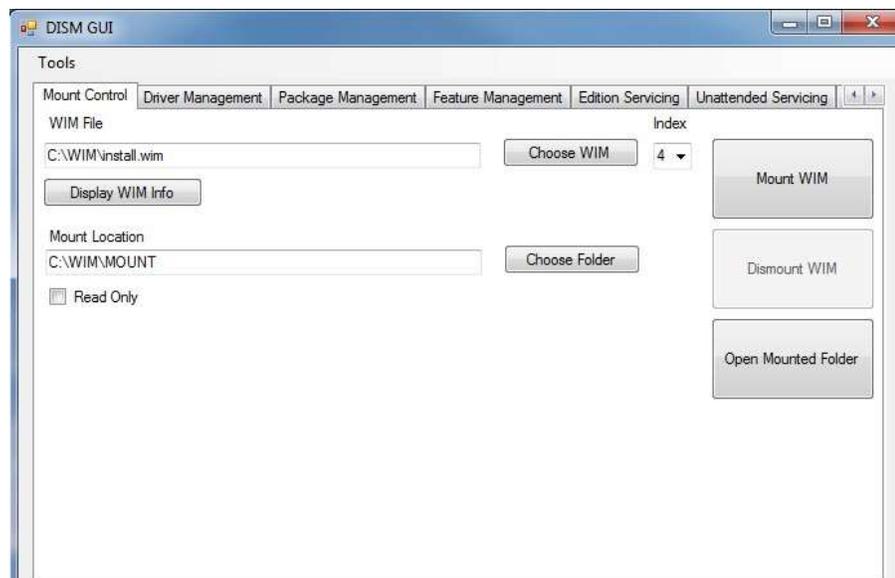
2. Add USB 3.0 Drivers to install.wim Image

- a) On the **Driver Management** tab, click the **Choose Driver Folder** button.
- b) Select the location of your USB 3.0 drivers and click **OK**.
- c) Verify the **Recurse** checkbox is selected.
- d) If your drivers are unsigned or reported to be unsigned, select the **Force Unsigned** checkbox.
- e) Click the **Add Drivers** button.



3. Commit Changes to install.wim Image and Unmount

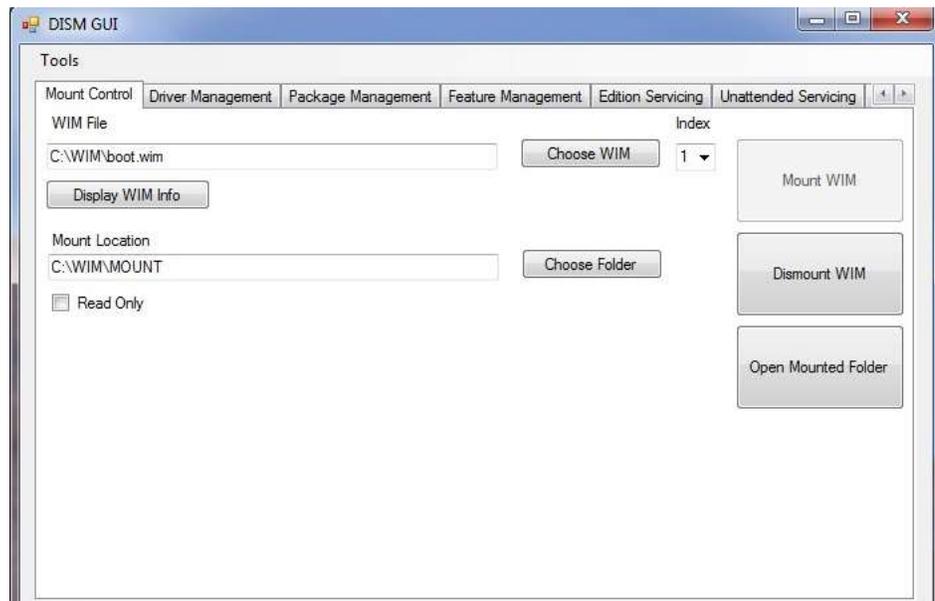
- a) On the **Mount Control** tab, click the **Dismount WIM** button.
- b) Select **Yes** to commit the changes. This may take a few minutes.





4. Mount boot.wim Image Index 1 (Windows PE)

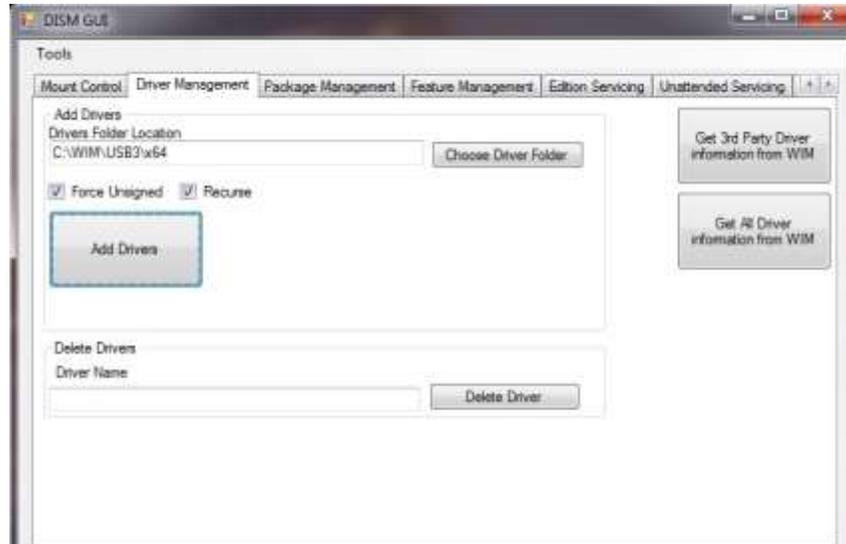
- a) On the **Mount Control** tab, click the **Choose WIM** button.
- b) Navigate to where you copied boot.wim (C:\WIM in the example) and click **Open**.
- c) Choose index number 1 (for Windows PE) from the drop-down list under **Index**.
- d) The Mount Location should still contain the appropriate folder. If not, click the **Choose Folder** button for the Mount Location. Browse to the proper folder (C:\WIM\MOUNT, for example) and click **OK**.
- e) Verify the **Read Only** checkbox is clear and click the **Mount WIM** button.





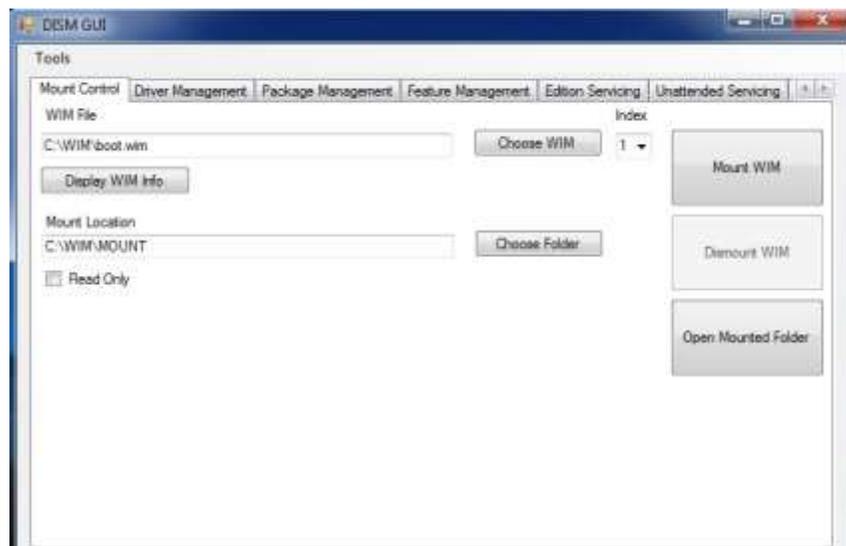
5. Add USB 3.0 Drivers to boot.wim Image

- a) On the **Driver Management** tab, all options should still be set up from adding them to the previous image. If not, click the **Choose Driver Folder** button. Select the location of your USB 3.0 drivers and click **OK**.
- b) Verify the **Recurse** checkbox is selected.
- c) If your drivers are unsigned or reported to be unsigned, select the **Force Unsigned** checkbox.
- d) Click the **Add Drivers** button.



6. Commit Changes to boot.wim Image and Unmount

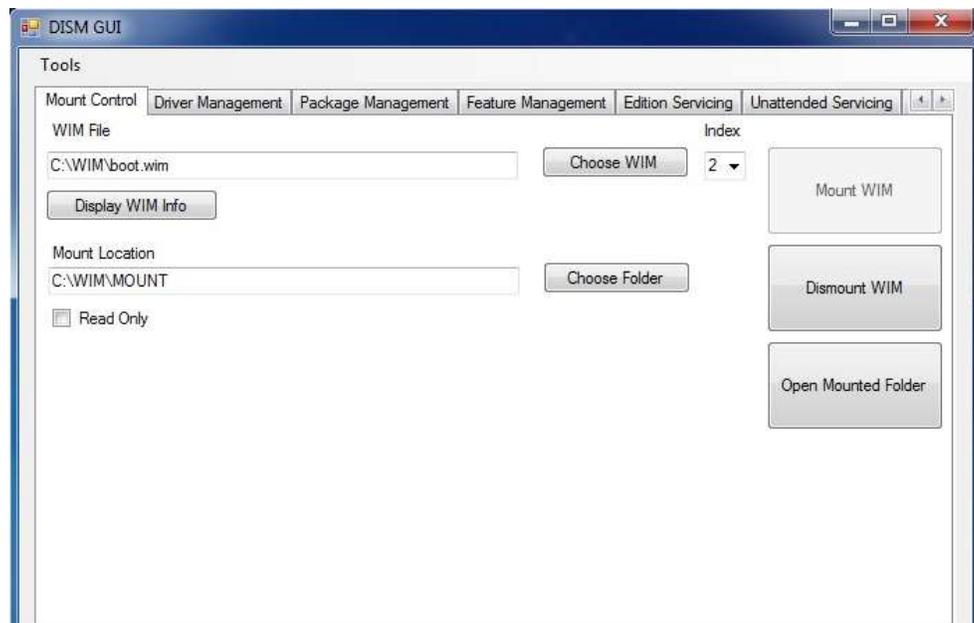
- a) On the **Mount Control** tab, click the **Dismount WIM** button.
- b) Select Yes to commit the changes. This will take about 30 seconds to finish.





7. Mount boot.wim Image Index 2 (Windows Setup)

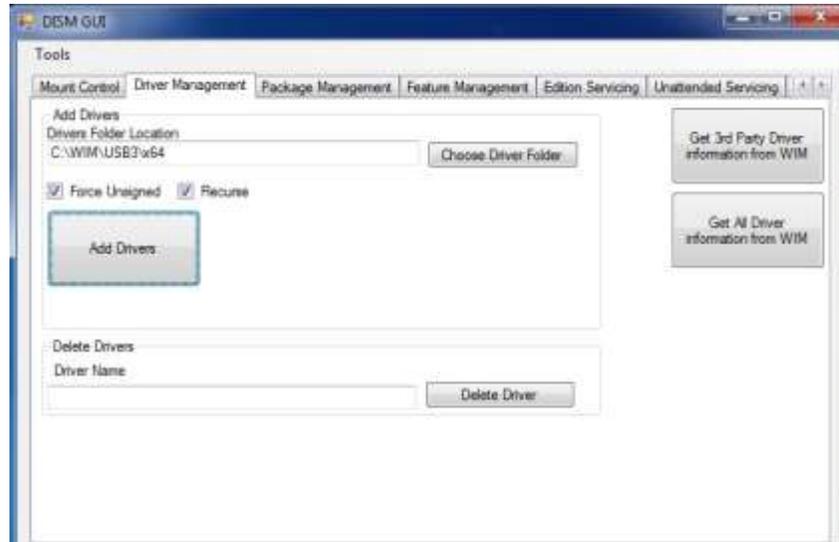
- a) On the **Mount Control** tab, you should see boot.wim still listed as the WIM file from the previous step. If not, click the **Choose WIM** button. Navigate to where you copied boot.wim (C:\WIM, for example) and click **Open**.
- b) Choose index number 2 (for Windows Setup) from the drop-down list under **Index**.
- c) The Mount Location should still contain the appropriate folder. If not, click the **Choose Folder** button for the Mount Location. Browse to the proper folder (C:\WIM\MOUNT, for example) and click **OK**.
- d) Verify the **Read Only** checkbox is clear and click the **Mount WIM** button.





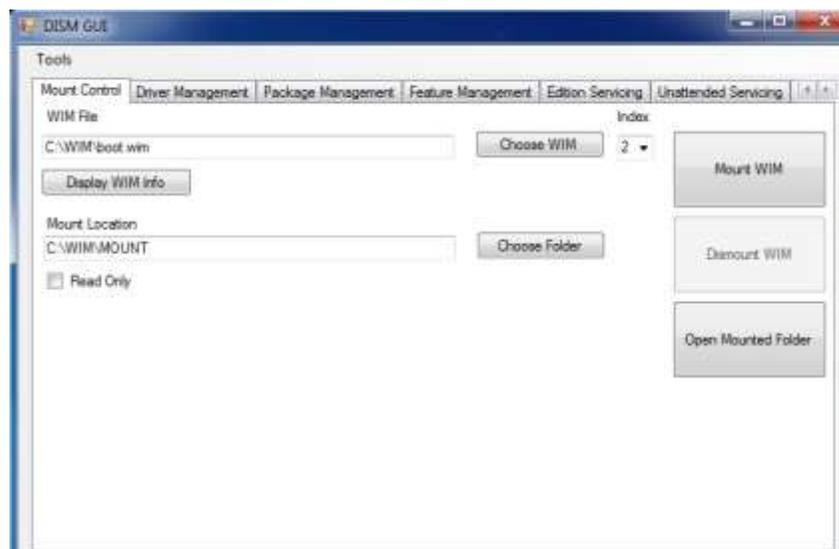
8. Add USB 3.0 Drivers to boot.wim Image

- a) On the Driver Management tab, all options should still be set up from adding them to the previous image. If not, click the **Choose Driver Folder** button. Select the location of your USB 3.0 drivers and click **OK**.
- b) Verify the **Recurse** checkbox is selected.
- c) If your drivers are unsigned or reported to be unsigned, select the **Force Unsigned** checkbox.
- d) Click the **Add Drivers** button.



9. Commit Changes to boot.wim Image and Unmount

- a) On the **Mount Control** tab, click the **Dismount WIM** button.
- b) Select **Yes** to commit the changes. This will take about 30 seconds to finish.





10. Copy Modified WIM files Back to the USB Flash Drive Installer

- a) Copy the newly modified install.wim and boot.wim files back to the \sources directory of the Windows 7 USB Flash Drive Installer, overwriting the original files.
- b) Eject and remove the USB Flash Drive from the Admin system.

2.6 Install Windows 7 on the Target Computer

Using the updated installer, proceed with the Windows 7 installation as you normally would.



3.0 *DISM Command Line Tool*

The DISM Command Line Tool updates a Windows 7 installation image so that it contains USB 3.0 drivers.

3.1 Assumptions

- You have a valid copy of Windows 7 on ISO or DVD.
- You have Administrator access to another working computer (the Admin system) with Windows 7 or later to follow these steps.
- The Admin system has at least 10GB free disk space.

3.2 Create the USB Flash Drive Installer

1. Use your Windows 7 DVD or ISO image to create a bootable USB flash drive. Instructions on how to do are found on [Microsoft's site](#).
2. Leave the flash drive connected to your administrator console system.

3.3 Copy install.wim and boot.wim to the Admin System

1. Create a temporary working directory on the Admin system, such as **C:\WIM**.
2. Create a mount point under your working directory: **C:\WIM\MOUNT**.
3. Locate the boot.wim and install.wim image files in the \sources directory on your Windows 7 flash drive.
4. Copy both these files to your working directory. **We recommend you make a second unmodified copy of these files.**

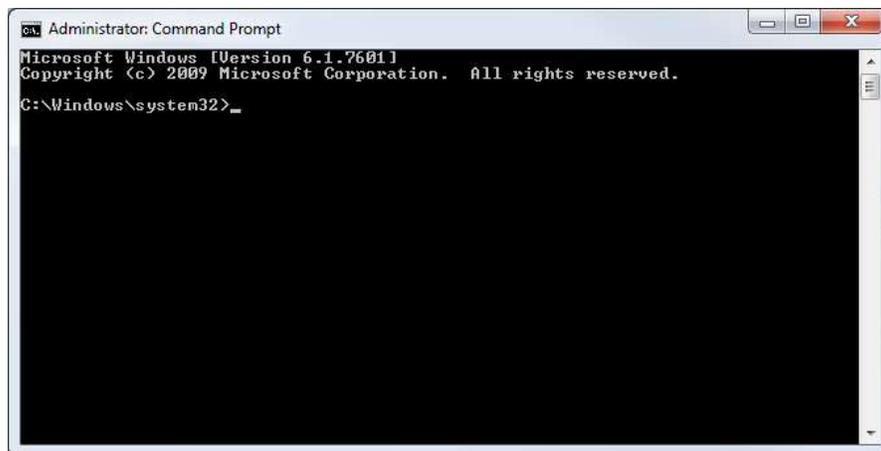
3.4 Get the Latest USB 3.0 Drivers

1. Download the current USB 3.0 drivers for your Intel NUC from [Download Center](#) to the Admin system.
2. Extract but don't install the USB 3.0 driver package.
3. Create a driver folder in your working directory for the 64-bit drivers (**C:\WIM\USB3**).
4. Copy the x64 folder from the extracted files to that location (**C:\WIM\USB3\x64**).



3.5 Run the DISM Command Line Tool

1. Open an Administrator Command Prompt window.



2. Enter each of the following DISM command lines in turn:

Action	DISM command line
Mount the install.wim image	dism.exe /Mount-WIM /WimFile:"C:\WIM\install.wim" /index:4 /MountDir:"C:\WIMMOUNT" Set /index: to 1 – 4 depending, on the version of Windows 7 you have: 1 = Home Basic 2 = Home Premium 3 = Professional 4 = Ultimate
Add USB 3.0 drivers to the install.wim image	dism.exe /image:"C:\WIMMOUNT" /Add-Driver /driver:"C:\WIM\USB3\x64" /ForceUnsigned /recurse
Commit changes to install.wim image and unmount	dism.exe /Unmount-wim /mountdir:"C:\WIMMOUNT" /commit
Mount boot.wim image Index 1 (Windows PE)	dism.exe /Mount-WIM /WimFile:"C:\WIM\boot.wim" /index:1 /MountDir:"C:\WIMMOUNT"
Add USB 3.0 drivers to boot.wim image	dism.exe /image:"C:\WIMMOUNT" /Add-Driver /driver:"C:\WIM\USB3\x64" /ForceUnsigned /recurse



Commit changes to boot.wim image and unmount	dism.exe /Unmount-wim /mountdir:"C:\WIM\MOUNT" /commit
Mount boot.wim image Index 2 (Windows Setup)	dism.exe /Mount-WIM /WimFile:"C:\WIM\boot.wim" /index:2 /MountDir:"C:\WIM\MOUNT"
Add USB 3.0 drivers to boot.wim image	dism.exe /image:"C:\WIM\MOUNT" /Add-Driver /driver:"C:\WIM\USB3\x64" /ForceUnsigned /recurse
Commit changes to boot.wim image and unmount	dism.exe /Unmount-wim /mountdir:"C:\WIM\MOUNT" /commit

3.6 Copy Modified WIM Files to the USB Flash Drive Installer

1. Copy the newly modified install.wim and boot.wim files back to the \sources directory of the Windows 7 USB Flash Drive Installer, overwriting the original files.
2. Eject and remove the USB Flash Drive from the Admin system.

3.7 Install Windows 7 on the Target Computer

Using the updated installer, proceed with the Windows 7 installation as you normally would.